

### **Abstract**

A multiple diffusion channel filter assembly is disclosed. The filter assembly provides filtration of air entering and exiting an electronic enclosure through a breather hole. In one implementation of the invention the filter assembly contains a housing with  
5 an adsorbent component and a first diffusion channel and a second diffusion channel. The first diffusion channel is configured and arranged to provide fluid communication between the interior chamber of the housing and the inside of the electronic enclosure. The second diffusion channel is configured and arranged to provide fluid communication between the interior chamber of the housing and the exterior of the  
10 electronic enclosure. In another implementation of the invention the filter assembly contains a first layer and a second layer which surround an adsorbent component and a first and a second diffusion channel that are in fluid communication with the interior space defined by the first and second layers. In yet another implementation of the invention, a filter accessory containing a diffusion channel is configured to work in  
15 conjunction with a separate filter assembly thereby adding an additional diffusion channel to the existing design.